Amended claims for the national phases

1. Device for producing a monocrystal by growing from a melt of raw material of the monocrystal to be produced with a heating appliance (1) for generating a temperature gradient within the melt of raw material whereby the heating appliance (1) has a rotationally symmetrical furnace (1) with a rotation axis (M)and with an essentially level floor heater (2) and an essentially level cover heater (3) that can be controlled to different temperatures and characterized by an insulating device being planned that is designed in such a way that that a heat flow in a radial direction vertical to the rotation axis (M) of the furnace (1) can be restricted to a preset rate and whereby the insulating device (6) is designed so that its insulating effect is reduced from the cover heater (3) to the floor heater (2).

2. Device in accordance with Claim 1 characterized by the furnace being designed cylindrically and by there being a controller that is designed in such a way that the temperature of the floor heater (2) can be reduced in comparison with the temperature of the cover heater.

3. Device in accordance with Claims 1 or 2 characterized by an insulator device (6) that is designed as a tapered cone body with a coaxial cylindrical hollow space that is open at the top and bottom and placed in the furnace (1) in such a way that the tapered end is towards the floor heater (2).

4. Device in accordance with one of the Claims 1 to 3 characterized by the furnace (1) having a jacket heater (5).

5. Device in accordance with one of the Claims 1 to 4 characterized by the heat transmission part (6) having a rotationally symmetrical profiled or unprofiled shape.

6. Device in accordance with one of the Claims 1 to 5 characterized by a heating surface of the heaters being calculated in a ratio to the diameter of the monocrystal to be produced so that a temperature that is essentially homogeneous over the radial cross-section surface of the monocrystal to be produced can be generated together with a temperature gradient between the first heater (2) and the second heater (3) that is essentially homogeneous and constant.

7. A device in accordance with Claim 6 characterized by the size of the surface of each heater (2, 3) being at least 1.5 times the cross-sectional area of the monocrystal to be produced is calculated.

8. A device in accordance with one of the Claims 2 to 7 characterized by the controller being designed so that the temperature of the first level heater (2) can be lowered continuously as against the second level heater (3).

9. A device in accordance with one of the Claims 1 to 8 characterized by the clearance between the heaters being greater than the length of the monocrystal to be produced.

10. A device in accordance with Claims 1 to 9 characterized by the insulator device being made, for example, of graphite.

11. A device in accordance with one of the Claims 1 to 10 characterized by a crucible (4) for receiving a melt of raw material of the monocrystal to be produced being provided that is located between the first heater (2) and the second heater (3).

12. A device in accordance with one of the Claims 1 to 11 characterized by the device being a device for producing a monocrystal from a III-V composite semiconductor.

13. A device in accordance with one of the Claims 1 to 12 characterized by the device being a device for producing a monocrystal from gallium arsenide.